

AUTODESK®  
LAND DESKTOP  
2007

AUTODESK®  
SURVEY  
2007

## Features and Benefits

Autodesk® Land Desktop 2007 and Autodesk® Survey 2007 provide the power and flexibility to let your land planning, surveying, and drafting teams use the same software to complete complex projects.

Whether you are working on a road project, planning and designing a subdivision, or analyzing conditions for an environmental assessment such as a landfill, Autodesk® infrastructure solutions provide the tools you need to realize your ideas and ensure maximum speed, power, and efficiency throughout your process.

Using Autodesk software, you save time and money through improved efficiency and by ensuring that data retains accuracy at all stages of the project lifecycle—from field survey through production drafting, into the field for construction staking or equipment guidance, and during ongoing maintenance of the completed project. Offering more than just the best land planning and surveying software, Autodesk provides a complete family of products that all share data. Easily integrate drawing files of building footprints into site plans. Move design surfaces directly from Autodesk Land Desktop to construction equipment guided by global positioning system (GPS) technology. And make direct use of the data from Autodesk software for planning, information, and maintenance systems in city geographic information systems (GIS).

## Key Features and Benefits by Product

The following sections outline the key benefits of Autodesk Land Desktop 2007 and Autodesk Survey 2007 software.

### Autodesk Land Desktop 2007

#### **Be More Profitable Using Integrated Design, Drafting, and Analysis Software**

Autodesk Land Desktop 2007 simplifies time-consuming land planning tasks and combines centralized data management to streamline design and analysis collaboration. Built on AutoCAD® 2007 and Autodesk Map® 3D 2007 software platforms, Land Desktop enables land professionals to create maps, model terrain, label COGO (coordinate geometry) points, perform alignments, and define parcels quickly and easily. Perform topographic analysis, use real-world coordinate systems, and calculate volume totals and roadway geometry more rapidly and accurately. Enhance Land Desktop 2007 even further with specialized, custom functionality using its comprehensive development API (application programming interface) product extensions to meet your organization's individual requirements.

Feature	Function	Benefits
<b>Project-Based Foundation</b>		
<b>Project Environment</b>	Autodesk Land Desktop is built on a central project environment that includes project data such as terrain models, points, alignments, and parcels.	Project data is stored in a central location where all team members working on a project can access it simultaneously. Major benefits include increased drawing performance, seamless data sharing, and access to the most up-to-date information.
<b>Drawing Standards: Industry-Specific Standards for Engineering and Survey</b>	A complete set of imperial and metric CAD standards for the land planner and surveyor are included with Autodesk Land Desktop 2007. Also included with each standard is a prototype drawing with standard layer definitions, prototype projects with description key files, point group definitions and other project settings, symbol libraries, label styles, contour styles, drawing setup files, and figure prefix libraries. Supporting documentation is also provided so that your office standards manual is easy to generate.	Easily implement a set of industry-appropriate standards for your organization. Drawing and production standards can greatly lower the cost and drastically improve the quality of construction documents by helping to ensure consistency among users.
<b>LandXML Support</b>	Import and export LandXML project data to Autodesk® Civil 3D® software and other civil applications.	LandXML is rapidly becoming a standard data format for civil engineering and surveying project data such as points, terrain models, alignments, and parcels. The ability to import and export LandXML enables you to share data with other applications.
<b>Civil Batch Drawing Converter—NEW</b>	The Autodesk® Civil Batch Drawing Converter Utility converts multiple drawings to a different AutoCAD drawing format. You can also use this utility to convert multiple drawings and save them using a new drawing unit setting to insure correct scale and display when you open the drawing in Autodesk Land Desktop 2007.	Customers working in mixed-version environments save valuable time while converting drawings for offices with previous versions of AutoCAD software by using this batching capability.
<b>Autodesk Civil 3D Data Interoperability</b>	Autodesk Land Desktop works seamlessly with Autodesk Civil 3D 2007 software, which is the latest and most advanced civil engineering tool from Autodesk. You can migrate Autodesk Civil 3D data into Land Desktop projects, and vice versa, enabling you to familiarize yourself with the latest civil engineering software available while continuing to work in the familiar Land Desktop environments.	Use Autodesk Land Desktop with Autodesk Civil 3D 2007 to increase your productivity on civil engineering projects. Complete road, site, sewer and storm drain, and subdivision projects faster and more accurately using a dynamic engineering model. Updates made in one place are instantly reflected throughout the model for accuracy, flexibility, and consistency in plan development and production.

<b>Feature</b>	<b>Function</b>	<b>Benefits</b>
<b>Support for Microsoft® Windows® XP Restricted and Limited User Configuration</b>	IT professionals who manage permissions for officewide users benefit from support for Microsoft Windows XP Restricted and Limited User settings.	Deploy Autodesk Land Desktop 2007 without having to alter user permissions on your network. The result is a secure network that meets your office protocol standards.
<b>Capabilities of AutoCAD 2007 and Autodesk Map 3D 2007</b>	Autodesk Land Desktop 2007 is built on AutoCAD 2007 and components of Autodesk Map 3D 2007.	Gain access to powerful drafting and base mapping functionality without leaving Land Desktop.
<b>Points</b>		
<b>Point Import/Export</b>	Easily customize formats for importing point files.	Access data from many different formats or systems for use in your project.
<b>Point Creation</b>	Create points with a variety of commands using graphical selection and COGO operations.	Use industry-standard terminology and input techniques when creating COGO points.
<b>Point Management and Reporting</b>	Use point groups to help manage points.	Provides a streamlined method of defining and managing point collections into logical and clear groupings. Point groups also enable users to represent data from a single point in multiple ways. This capability eliminates unnecessary duplication of points, boosting performance and streamlining your projects.
<b>Description Keys</b>	Use description keys to help define graphical appearance, point description, and symbols.	Increase productivity and automate the process of building more complete drafting directly from the input/import of survey data and coordinate files. Description keys also assist in maintaining graphical standards such as point layer and symbol use.
<b>Geometry Creation (Lines, Curves, and Spirals)</b>	Create base geometric entities using graphical and COGO input functions.	Work with familiar terminology and methodology, resulting in shorter learning time and the flexibility to meet a broad set of layout requirements.
<b>Alignments</b>		
<b>Plan Alignments</b>	Lay out road alignments using graphical and tabular input and editing functions.	Provides flexibility to meet a variety of different design challenges.
<b>Alignment Annotation</b>	Quickly and accurately draft stationing, station/offset labels, and offset alignments that match drafting requirements.	Quickly and accurately draft stationing, station/offset labels, and offset alignments that match drafting requirements.
<b>Parcels</b>		
<b>Parcel Definition</b>	Lay out parcels using standard AutoCAD functions or focused lot-sizing commands.	Gain the flexibility to design parcels using a variety of methodologies.
<b>Parcel Management</b>	Store parcels in the project for rapid drafting, reporting, and base analysis.	Share parcel data with everyone working on the project. You can also create reports in the same management interface.

Feature	Function	Benefits
<b>Labeling</b>		
<b>Create Line, Curve, and Spiral Labels</b>	Use associative labels that automatically react to changes in the geometry.	Help ensure accurate label values and locations for all geometry.
<b>Label Styles</b>	Use a style-based mechanism to control label appearance and drafting.	Help ensure that all drafters create consistent finish drafting for labels and tables.
<b>Tables</b>	Create geometry tables.	Format tables to match user specifications and quickly create tables from label tags in your drawing.
<b>Terrain Modeling</b>		
<b>Terrain Model Creation</b>	Create a surface from a variety of 3D data, including points, contours, breaklines, AutoCAD entities, and more.	Use powerful terrain modeling engine that supports large terrain models for use throughout Autodesk Land Desktop and Autodesk Survey 2007.
<b>Terrain Model Explorer</b>	Use a flexible surface creation and management interface.	Manage the disparate data used when building your terrain model, and perform various analysis functions quickly and easily.
<b>Surface Visualization and Analysis</b>	Draft your surface model in a variety of 2D and 3D displays, including elevation and slope banding, 3D grid, and more. Analysis includes watershed delineation, flow tracking, and sections.	Represent the surface based on the requirements of the project or project phase. You also have tools to quickly verify the integrity of the surface and perform complex analysis tasks.
<b>Surfaces Volumes</b>	Use a variety of surface volume calculation capabilities, including grid, composite, and sectional-based methods.	Calculate highly accurate cut/fill volumes using industry-standard methodology.
<b>Contours</b>		
<b>Contour Creation</b>	Create contours directly from a surface model or using manual digitizing commands.	Quickly create contours with control over layer and style. Gain flexibility to match your needs, overall raw processing/drafting speed, and accurate contour creation.
<b>Contour Styles</b>	Use contour styles to control appearance, smoothing, labeling, and so forth.	Define standard graphic appearance for types of contours and contour labels. This capability helps to ensure that drafting requirements are automatically met.
<b>Contour Labeling</b>	Use automated, intelligent contour labeling.	Add labels without breaking the contour. This capability provides drafting benefits such as the ability to slide the label along contours. It also ensures that contours are not broken into smaller segments.
<b>Parking Layout</b>		
<b>Dynamic Blocks</b>	Land Desktop includes Dynamic Blocks designed specifically for parking lot layout. Dimensions are dynamically displayed on geometry as you create or edit it. As you enter new values directly at the graphics cursor, revised values are displayed instantly in the drawing geometry, providing immediate feedback on the information you enter.	Parking lot and island layout is interactive and much more efficient.

# Autodesk Survey 2007

## Save Time and Money by Streamlining Data Collection and Exporting Data to the Field

Autodesk Survey 2007 software extends the functionality of Autodesk Land Desktop 2007, offering an efficient, cost-effective way to get professional survey data to and from the field and to generate drawings in the AutoCAD 2007 software environment. With Autodesk Survey 2007 you can automatically download or upload information using a wide range of industry-standard data collectors, survey instruments, and GPS receivers. With this powerful software, it's easy to share survey data with civil engineering, GIS, and land-planning professionals. Autodesk Survey 2007 streamlines the collection of data, reducing keystrokes, saving time, and helping to ensure accuracy.

**Note:** Running Autodesk Survey 2007 requires that Autodesk Land Desktop 2007 software be installed.

Feature	Description	Benefit
<b>Survey Toolspace</b>	Use the Survey Toolspace to help manage the points and figures in your survey network efficiently.	Faster processing and improved usability increase performance and create a better user experience.
<b>Exporting Survey Figures to a Field Book</b>	Export figures to a field book file from either the Network item or from the Figures collection. The modified Figure Settings dialog box provides settings to control export of figures with their referenced COGO points.	Increase usability and streamline your process.
<b>Create 3D Polylines from Figures</b>	Create 3D polylines from one or many existing survey figures to a specified layer.	Convert 2D figures to 3D polylines for use as breaklines and grading features, and for visualization purposes.
<b>Input and Editing of Survey Figures</b>	Create survey figures automatically from survey observations and edit these figures to correct inconsistencies or inaccurate data.	Manage, edit, and build accurate surfaces more quickly from survey figures using the Survey Toolspace.
<b>Sideshot and Traverse Editor</b>	The Survey Toolspace simplifies the way you edit, view, and manage sideshot and traverse observations.	Enter raw survey data quickly and easily with tabular sideshot and traverse editors. Update sideshot locations automatically based on changes to the parent traverse.
<b>Traverse Analysis</b>	Use industry-standard methodologies, including Least Squares Analysis, Compass Rule, Transit Rule, and Crandall Rule to analyze and adjust traverse.	Create, edit, process, display, and report on least squares network functionality. Draft error ellipses and traverse linework automatically. Adjust traverse loops and get a full report.
<b>Automated Drafting</b>	Significantly improve your drafting productivity.	When using description keys and field key codes, the Import Fieldbook command automatically drafts points, symbols, and lines and curves—all on the specific layers defined by the user.

Feature	Description	Benefit
<b>Bidirectional Data Collector and GPS Communication</b>	Updated Trimble® Link™ and Carlson Connect™ software connects directly to Trimble's TSCe™ Controller running the Trimble Survey Controller™ software, Trimble's TSC1™ Controller running the Trimble Survey Controller software, and PC card for use with Trimble's SiteVision® system. Both Trimble Link and Carlson Connect are available via free download.	Transfer data seamlessly between Autodesk's civil software products and industry-leading GPS communication systems.

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